



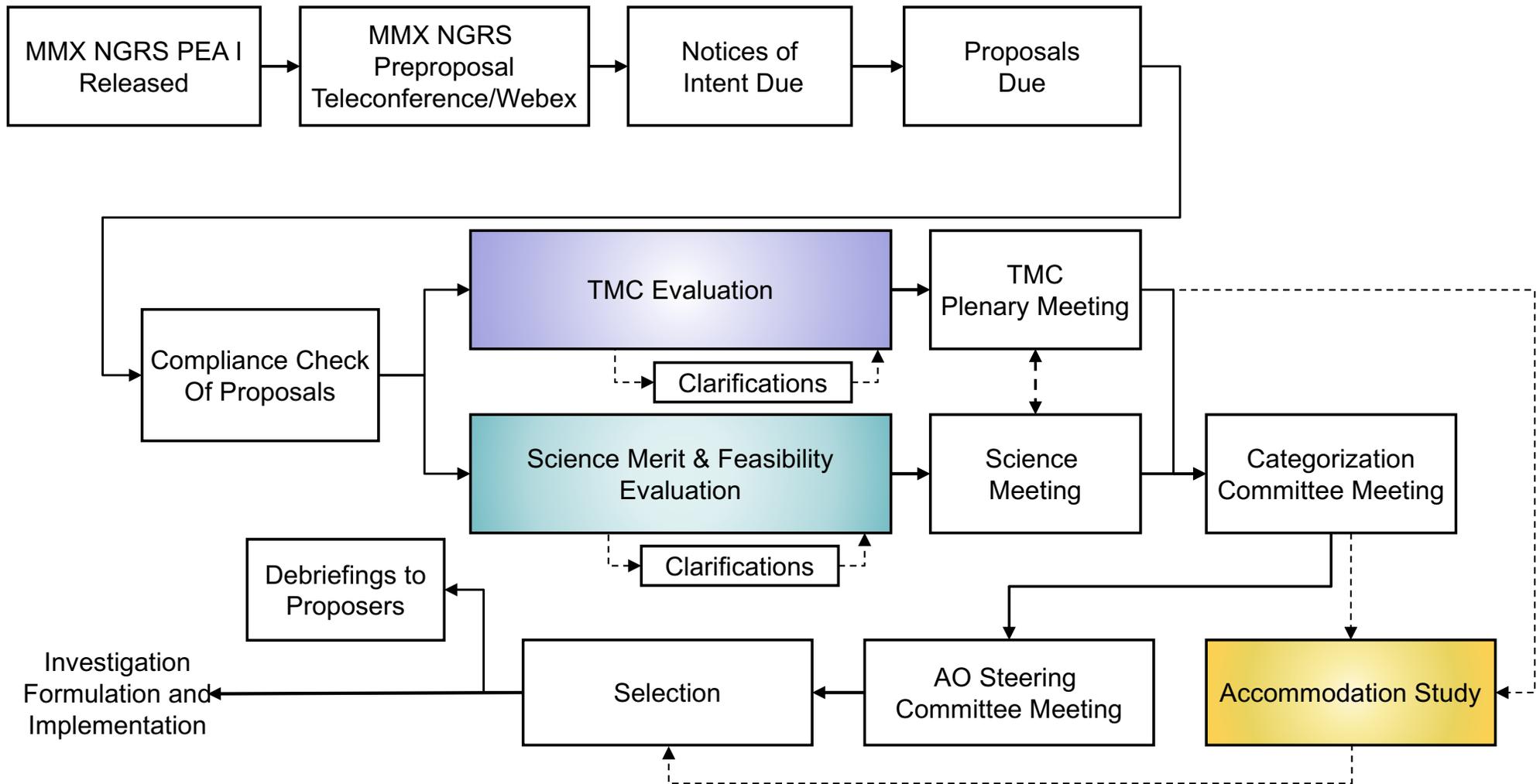
MMX NGRS PEA I Proposal Selection Process Overview Science Review

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Evaluation & Selection Overview

MMX NGRS PEA I
Preproposal
Teleconference/WebEx





Evaluation & Selection Overview

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Evaluation Criteria and Selection Factors

Evaluation Criteria from Section 7.2 of the SALMON-3 AO:

1. *Intrinsic Science, Exploration, or Technology Merit of the Proposed Investigation* (Evaluated by the Science Panel);
2. *Experiment Science, Exploration, or Technology Implementation Merit and Feasibility of the Proposed Investigation* (Evaluated by the Science Panel);
3. *Technical, Management, and Cost Feasibility of the Proposed Investigation Implementation* (Evaluated by the TMC Panel).

Weighting: the first criterion is weighted approximately 40%; the second and third criteria are weighted approximately 30% each.

The Selecting Official may also take into account:

- Programmatic factors, including available funding;
- Accommodation of the proposed instrument on the MMX spacecraft.



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Principles for Evaluation

- All proposals are to be treated fairly and equally.
- Merit is to be assessed on the basis of material in the proposal and clarification process (if applicable).
- Evaluation Ratings reflect the written strengths and weaknesses.
- Everyone involved in the evaluation process is expected to act in an unbiased objective manner; advocacy for particular proposals is not appropriate.

General Evaluation Ground Rules

- All proposals are evaluated to uniform standards established in the solicitation, and without comparison to other proposals.
- All evaluators are experts in the areas that they evaluate.
- Non-panel/mail-in evaluators (to provide special science expertise to the Science Panel) and specialist evaluators (to provide special technical expertise to the TMC Panel) may be utilized, respectively, based on need for expertise in a specific science or technology/engineering area that is proposed.



Science Evaluation

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Science Panel Composition and Organization

- The Program Scientist chairs the Science Panel.
- Science evaluators are typically, but not exclusively, recruited from the academic, governmental, and industrial research communities.
- The Science Panel evaluates the Intrinsic Science Merit of the Proposed Investigation and the Experiment Science Implementation Merit and the Feasibility of the Proposed Investigation.
- The science evaluation is conducted *via* one Science Panel. Sub-panels may be employed, but we do not anticipate using them in this review because of the specific focus of the PEA.
- Each proposal is evaluated by assigned panel members.
 - The Lead Evaluator for each proposal leads the discussion.
 - The Lead Evaluator may assign another Evaluator to take notes on the discussion.
- The TMC Panel may provide comments and questions to the Science Panel.
- Pending a formal agreement between NASA and JAXA, JAXA observers may be present in the Science and TMC panels, and may provide comments to NASA.



Science Evaluation

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Science Panel Procedures

Each Science Panel member evaluates proposals as directed by the Chair.

- If special science expertise is required, the Science Panel may utilize non-panel/mail-in evaluators to assist with one or more proposals.
- Non-panel/mail-in evaluators evaluate only those parts of proposals pertinent to their scientific specialties.

Each proposal may be discussed by the evaluators in teleconferences.

- The purpose of the panel discussions is to produce a set of findings, in the form of Strengths and Weaknesses, for each proposal.
- Each panel member provides an individual evaluation prior to the teleconference.
- During the teleconference, proposals and the individual evaluations including non-panel/mail-in evaluations are discussed.
- Following the teleconference, the Lead Evaluator captures/synthesizes individual evaluations including discussions and generates the Draft Evaluation Forms including draft findings.



Science Evaluation

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Science Panel Procedures

A Science Panel Meeting is held to refine and finalize the science evaluation forms.

- The Science Panel compiles all of the findings for each proposal.
- For each proposal, the Chair or designated Lead Evaluator leads the discussion, summarizes the proposed investigation, and documents the results.
- If warranted, the Panel may reconsider evaluations at the Meeting.
- Evaluations of all proposals are reviewed during the Science Panel Meeting to ensure that standards have been applied uniformly and in an appropriate and fair manner.
- The Lead Evaluator synthesizes and documents Panel evaluations.



Science Evaluation

Science Panel Evaluation Factors

Factors A-1 to A-6. Intrinsic Science, Exploration, or Technology Merit of the Proposed Investigation (Section 7.2.2 of the SALMON-3 AO):

- Factor A-1. Compelling nature and priority of the proposed investigation’s science, exploration, or technology goals and objectives.
- Factor A-2. Programmatic value of the proposed investigation.
- Factor A-3. Likelihood of science, exploration, or technology success.
- Factor A-4. Science, exploration, or technology value of the Threshold Investigation.
- Factor A-5. Merit of any Science-Exploration-Technology Enhancement Options (SEOs), if proposed.*
- Factor A-6. Merit of any PI-developed Technology Demonstration Opportunities (TDOs), if proposed.*

* Not relevant to this PEA.



Science Evaluation

Science Panel Evaluation Factors

Factors B-1 to B7. Experiment Science, Exploration, or Technology Implementation Merit and Feasibility of the Proposed Investigation (Section 7.2.3 of the SALMON-3 AO):

- Factor B-1. Merit of the instruments and investigation design for addressing the science, exploration, or technology goals and objectives.
- Factor B-2. Probability of technical success.
- Factor B-3. Merit of the data analysis, data availability, and data archiving plan and/or sample analysis plan.
- Factor B-4. Science, exploration, or technology resiliency.
- Factor B-5. Probability of investigation team success.
- Factor B-6. Merit of any Science-Exploration-Technology Enhancement Options (SEOs), if proposed. (Not relevant to this PEA.)
- Factor B-7. Merit of PI-developed Technology Demonstration Opportunities (TDOs), if proposed. (Not encouraged in this PEA.)



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Science Evaluation Findings

- **Major Strength:** A facet of the proposed investigation that is judged to be of superior merit and can substantially contribute to the ability of the project to meet its scientific objectives.
- **Major Weakness:** A deficiency or set of deficiencies taken together that are judged to substantially weaken the project's ability to meet its scientific objectives.
- **Minor Strength:** A strength that is worthy of note and can be brought to the attention of Proposers during debriefings, but is not a discriminator in the assessment of merit.
- **Minor Weakness:** A weakness that is sufficiently worrisome to note and can be brought to the attention of Proposers during debriefings, but is not a discriminator in the assessment of merit.

Note: Findings that are considered “as expected” are not documented in the Forms.



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Factors A and B Rating Definitions

- **Excellent:** A comprehensive, thorough, and compelling proposal of exceptional merit that fully responds to the objectives of the AO as documented by numerous and/or significant strengths and having no major weaknesses.
- **Very Good:** A fully competent proposal of very high merit that fully responds to the objectives of the AO, whose strengths fully outbalance any weaknesses.
- **Good:** A competent proposal that represents a credible response to the AO, having neither significant strengths nor weakness and/or whose strengths and weaknesses essentially balance.
- **Fair:** A proposal that provides a nominal response to the AO, but whose weaknesses outweigh any perceived strengths.
- **Poor:** A seriously flawed proposal having one or more major weaknesses (e.g., an inadequate or flawed plan of research or lack of focus on the objectives of the AO).

Note: Only Major Findings are considered in the risk rating.



Science Evaluation

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Science Panel Products: Form A

For each proposal, the Science evaluation will result in two forms, Forms A and B:

Form A

- Proposal title, PI name, and submitting organization;
- Proposal summary;
- The Intrinsic Science Merit of the Proposed Investigation adjectival ratings from each evaluator, ranging from “Excellent” to “Poor”;
- Summary rationale for the median rating;
- Narrative findings supporting the adjectival rating, identified as major or minor strengths or weaknesses;
- Comments to PI, Comments to NASA, Comments to the TMC Panel. (optional)



Science Evaluation

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Science Panel Products: Form B

For each proposal, the Science evaluation will result in two forms, Forms A and B:

Form B

- Proposal title, PI name, and submitting organization;
- The Experiment Science Implementation Merit and Feasibility of the Proposed Investigation adjectival ratings from each evaluator, ranging from “Excellent” to “Poor”;
- Summary rationale for the median rating;
- Narrative findings supporting the adjectival rating, identified as major or minor strengths or weaknesses;
- Comments to PI, Comments to NASA, Comments to the TMC Panel. (optional)